Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Please amend claims 4 to 16 and 18 to 30 as follows:

1. (original) A process for separating a cell type from a mixture of cell types by electrophoresis comprising:

(a) providing a sample comprising a mixture of cell types to a sample chamber of electrophoresis apparatus comprising a first electrolyte chamber; a second electrolyte chamber, a first sample chamber disposed between the first electrolyte chamber and the second electrolyte chamber; a second sample chamber disposed adjacent to the first sample chamber disposed and between the first electrolyte chamber and the second electrolyte chamber; a first ion-permeable barrier disposed between the first sample chamber and the second sample chamber; a second ion-permeable barrier disposed between the first electrolyte chamber and the first sample chamber; a third ion-permeable barrier disposed between the second sample chamber and the second electrolyte chamber; and the electrodes disposed in the first and second electrolyte chambers; and

(b) applying an electric potential between the electrodes causing at least one cell type in the first sample chamber or the second sample chamber to move through the first ion-permeable barrier into the other of the first or second sample chamber.

2. (original) The process according to claim 1 wherein the at least one cell type is selected from the group consisting of cancer, totipotent, multipotent, pluripotent, stem, viable, non-viable, bacterial, erythrocyte, leukocyte, bone marrow, organ, tissue, single cell eukaryote, prokaryote, algae, and plant.

3. (original) The process according to claim 2 wherein the at least one cell type is selected from the group consisting of erythrocyte, leukocyte, bone marrow cell, organ cell, stem cell, and tissue cell.

4. (currently amended) The process according to ~~any one of claims 1 to 3~~ **claim 1** wherein the

sample contains at least two cell populations.

5. (currently amended) The process according to ~~any one of claims 1 to 4~~ **claim 1** wherein the cell type of interest is caused to move out of the sample through the first ion-permeable barrier into the other of the first or second sample chamber and unwanted cell types remain in the sample during electrophoresis or the cell type of interest ~~may remain~~ **remains** in the sample and unwanted cell types are caused to move out of the sample into the other of the first or second sample chamber during electrophoresis.

6. (currently amended) The process according to ~~any one of claims 1 to 5~~ **claim 1** wherein substantially all transbarrier migration of a desired cell type occurs upon the application of the electric potential.

7. (currently amended) The process according to ~~any one of claims 1 to 6~~ **claim 1** wherein the first ion-permeable barrier prevents substantial convective mixing of contents of the first and second sample chambers, the second ion-permeable barrier prevents substantial convective mixing of contents of the first electrolyte chamber and the first sample chamber, and the third ion-permeable barrier prevents substantial convective mixing of contents of the second electrolyte chamber and the second sample chamber.

8. (currently amended) The process according to ~~any one of claims 1 to 7~~ **claim 1** wherein the step of applying an electric potential between the electrodes is maintained until at least one cell type reaches a desired purity level in the first or second sample chamber.

9. (currently amended) The process according to ~~any one of claims 1 to 8~~ **claim 1** wherein the first ion-permeable barrier is a membrane having a characteristic average pore size and pore size distribution.

10. (currently amended) The process according to ~~any one of claims 1 to 9~~ **claim 1** wherein all the ion-permeable barriers are membranes having a characteristic average pore size and pore size distribution.

11. (currently amended) The process according to claim 10 wherein at least ~~some~~ **a portion** of the membranes are made from polyacrylamide and ~~having~~ **have** a molecular mass cut-off of at least about 5 kDa.

12. (currently amended) The process according to claim 10 wherein the first barrier is a large pore sized membrane selected ~~form~~ **from** the group consisting of **a** polycarbonate membrane, **a** polyacrylamide membrane, **a** polyvinyl alcohol (PVA) membrane, **a** polyethersulfone (PES) membrane, **a** polyvinylidene fluoride (PVDF) membrane, **a** nylon membrane, **an** acrylic copolymer based membrane, **a** vinyl copolymer based membrane, **a** polysulfone membrane, **a** cellulose membrane, **a** cellulose triacetate membrane, **a** cellulose ~~esters~~ **ester**, **a** polypropylene membrane, **a silicate** ~~silicates~~, **a** borosilicate, and **a** glass fiber.

13. (currently amended) The process according to claim 12 wherein the large pore ~~size~~ **sized** membrane is **a** polycarbonate membrane.

14. (currently amended) The process according to claim 12 or 13 wherein the pore size is from **about** 0.01 to **about** 100 μm.

15. (currently amended) The process according to claim 14 wherein the pore size is from **about** 1 to **about** 10 μm.

16. (currently amended) The process according to ~~any one of claims 1 to 15~~ **claim 1** wherein the second and third barriers are restriction membranes having a molecular mass cut off less than that of the first barrier.

17. (original) The process according to claim 16 wherein the restriction membranes are formed from polyacrylamide.

18. (currently amended) The process according to ~~any one of claims 1 to 17~~ **claim 1** wherein at least about 50% of the at least one cell type remains viable or substantially unchanged after separation.

19. (currently amended) The process according to claim 18 wherein at least about 60%~~, more preferably at least about 70%, even more preferably at least about 80%, or up to about 90%~~ of the at least one cell type remains viable or substantially unchanged after separation.

20. (currently amended) The process according to ~~any one of claims 1 to 19~~ **claim 1** wherein the sample is processed in a static form in batches or processed in a substantially continuous form by moving the sample and electrolyte in streams through the apparatus.

21. (currently amended) The process according to ~~any one of claims 1 to 20~~ **claim 1** wherein ~~voltage~~ **the difference in the electric potential is** ~~ranges~~ from about 1 to **about** 200 V.

22. (currently amended) The process according to claim 21 wherein ~~a~~ **the** voltage **is** ~~of~~ about 60 V ~~is used~~.

23. (currently amended) The process according to ~~any one of claims 1 to 20~~ **claim 21** wherein **the** field strengths **are from** ~~of~~ about 10 to **about** 100 V/cm ~~are used~~.

24. (currently amended) The process according to claim 20 wherein ~~a~~ **the** field strength **is** ~~of~~ about 50 V/cm ~~are used~~.

25. (currently amended) The process according to ~~any one of claims 1 to 24~~ **claim 1** wherein electrophoresis run times ~~ranging~~ **are** from about 1 to **about** 60 minutes ~~are used~~.

26. (currently amended) The process according to claim 25 wherein ~~an~~ **the** electrophoresis run time **is** ~~of~~ about 10 minutes ~~is used~~.

27. (currently amended) The process according to ~~any one of claims 1 to 26~~ **claim 1** wherein buffer or electrolyte concentrations are between **about** 100 to **about** 400 mM.

28. (currently amended) The process according to claim 27 wherein the buffer or electrolyte is **a** ~~selected from the group consisting of~~ cell-compatible biological ~~buffers~~ **buffer** ~~and~~

comprising at least one component selected from the group consisting of ~~components such as~~ HEPPS, HEPES, BisTris, sodium chloride, phosphate buffer salts, sucrose, glucose and mannitol.

29. (currently amended) The process according to ~~any one of claims 1 to 28~~ **claim 1** wherein cell concentrations ~~of~~ **are** between about 10^5 to **about** 10^{10} ~~are processed~~.

30. (currently amended) The process according to claim 29 wherein the cell concentrations are between **about** 10^6 and **about** 10^8.